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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,689	11/18/2003	Timothy C. Krywaczyk	END920030002US1	4803
45602	7590	03/08/2006	EXAMINER	
SCULLY, SCOTT, MURPHY & PRESSNER, P.C. 400 GARDEN CITY PLAZA GARDEN CITY, NJ 11530			RAO, SHRINIVAS H	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/715,689

Applicant(s)

KRYWANCZYK ET AL.

Examiner

Steven H. Rao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11, 12, 14, 16-19 and 30-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-9, 11-12, 14, 16-19, 30-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Applicants' amendment filed on December 14, 2005 has been entered and forwarded to the Examiner on December 28, 2005.

Therefore claims 1 to 9, 11 to 12, 14, 16 to 19, and 30 -32.

Claims 10,15, 20 and 21-29 have been cancelled.

#### ***Information Disclosure Statement***

No further IDS after the one filed on November 12, 2004 has been filed in this Case.

#### ***Claim Rejections - 35 USC Section 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action'.

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9, 11-12, 14, 16-19 and 30-35 are rejected under 35 U.S.C. 102(b) as being anticipated Moon et al. (WO 92/156651 , herein after Moon).

With respect to claims 1 and 11 Moon describes a UV energy curable tape comprising: a support layer, ( Moon page 5 line 30-page 6 line 2) an adhesive material positioned on said support layer. ( Moon page 5 lines 30 -page 6 line 2) and having /including a UV energy curable oligomer, (Moon Example 1 ) a UV energy initiator, ( Moon page 6 lines 19-28) and a material which starts to emit optical light when said

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tape is substantially fully cured ( Moon page 7 lines 18 to 21, e.g. UV dyes, pigments similar to UV dyes mentioned in Applicants' specification pages 9 line 17 to page 10 line 18) .

It is noted that " and " becomes substantially fully cured" starts to emit light "is a hybrid product by process and particular use / functional recitation limitation for which no patentable weight can be given unless recited in proper format.

It is also noted that Applicants' have admitted ( remarks section of instant amendment i.e. faxed on 12/14/2005) " Applicants' are claiming a tape that functions in a specified manner " it is noted that current case law requires the functional recitation , "becomes substantially fully cured" has not been given weight because it is narrative in form . In order to be given patentable weight, a functional recitation must be expressed as a " means" for performing the specified function, as set forth in 35 USC Section 112, 6<sup>th</sup> paragraph , and must be supported by recitation in the claim of sufficient structure to warrant the presence of functional language. In re Fuller 1929 , C.D. 172, 388 O. G. 279. See also the prohibition against using apparatus and method use in a single claim IPXL holdings LLC v Amazon.com Inc. 77 USPQ 2d 1140 .

With respect to claims 2 and 12, Moon describes the UV energy curable tape of claim 1, wherein said adhesive material comprises an acrylate oligomer. ( Moon page 5 lines 8-14).

With respect to claim 3 Moon describes The UV energy curable tape of claim 1, wherein said UV energy curable oligomer comprises a material capable of reacting with radicals to form longer chain polymers. ( Moon page 6 line 28 cross

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linking- inherent property when molecules cross link they form longer chain polymers/copolymers).

With respect to claims 4 and 14, Moon describes The UV energy curable tape of claim 1, wherein said UV energy initiator comprises photoinitiator.

19 ( Moon page 6 line ).

With respect to claim 5 Moon describes the UV energy curable tape of claim 4, wherein said photoinitiator includes diphenyl groups that create radicals when exposed to UV energy. ( Moon page 6 lines 19-25).

With respect to claims 6 and 16 Moon describes the UV energy curable tape of claim 1, wherein said material which emits optical light comprises UV sensitive ink. ( Moon page 6 line zo-pigments).

With respect to claims 7 and 17 Moon describes the UV energy curable tape of claim 6, wherein said material which emits optical light comprises from about .001 weight percent to about 20 weight percent of said tape. ( Moon claim 6).

With respect to claim 8 and 18 Moon describes the UV energy curable tape of claim 1, wherein said material which emits optical light comprises UV sensitive dye. ( Moon page 7 line 20-21).

With respect to claims 9 and 19 Moon describes the UV energy curable tape of claim wherein substantially fully cured comprises the absorption of about 5 millijoules/cm<sup>2</sup> to about 10 joules/cm<sup>2</sup> of UV energy into said tape. ( Moon page 4 line 10).

With respect to claims 30 and 31 wherein the light emitting material emits light of

second type different from first type, as the tape is being cured and the type of light emitted by said light material changes from said second type to said first type when the type becomes substantially cured and wherein the light matches the amount of energy required to substantially fully cure the tape, thereby to facilitate completely removing the tape from given substrate. ( rejected for reasons stated under claims 11 26, 27 etc.).

With respect to claim 32, Moon describes a UV energy curable tape of Claim 1, wherein: the material which starts to emit optical light is a UV sensitive material', ( Moon examples , tables ) and the light emitting energy range of the light emitting material matches the amount of UV energy required to substantially fully cure the tape. ( Moon page 10 last line table I etc.).

With respect to claim 33 Moon describes the UV energy curable tape of Claim 1, wherein said material which emits optical light comprises about 0.001% by weight of the tape; ( Moon- see rejection of claim 7 above ,page 6 lines 25-27, photoinitiator is 0.01 part and additive therein is dye/pigment in lesser amounts) said material which emits optical light starts to emit optical light on the first type when said tape absorbs about 10<sup>2</sup> of UV energy. ( joules / cm Moon , see rejection of claims 9 and 19 above, page 4 line 10).

With respect to claim 34 Moon describes a UV energy curable tape comprising : a support layer ( Moon page 5 line 30-page 6 line 2) ; an adhesive material positioned on said support layer ( Moon page 5 lines 30 -page 6 line 2), and including a UV energy curable oligomer , a UV energy initiator (Moon Example 1 ), and given a material for emitting light ( Moon page 7 lines 18 to 21, e.g. UV dyes, pigments similar to UV dyes

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mentioned in Applicants' specification pages 9 line 17 to page 10 line 18) . ; wherein a defined amount of UV energy is needed to substantially fully cure the tape; ( inherent property that a defined amount of UV energy is required to fully cure a particular tape) and said same defined amount of UV energy causes the given material to begin to emit light of a even type, whereby said given material provides substantially fully cured a visible indication that the tape is substantially fully cured. (Moon page 7 27 to page 8 lines 2, etc. functional recitation-see below )

The limitation "said same defined amount of UV energy causes the given material to begin to emit light of a even type, whereby said given material provides substantially fully cured a visible indication that the tape is substantially fully cured. " is taken to be "is a product by process limitation for which no patentable weight can be given unless recited in proper format. See In re Fessman, 180 USPQ 324,326 ( CCPA 1974), In re Marosi et al. 218 USPQ289. 292 ( Fed. Cir. 1983) and In re Thorpe, 227 USPQ964 966 ( Fed. Cir. 1985) and MPEP 2113.

It is also noted that Applicants' have admitted ( remarks section of instant amendment i.e. faxed on 12/14/2005) " Applicants' are claiming a tape that functions in a specified manner " it is noted that current case law requires the functional recitation , "becomes substantially fully cured" has not been given weight because it is narrative in form . In order to be given patentable weight, a functional recitation must be expressed as a " means" for performing the specified function, as set forth in 35 USC Section 112, 6<sup>th</sup> paragraph , and must be supported by recitation in the claim of sufficient structure to

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warrant the presence of functional language. In re Fuller 1929 , C.D. 172, 388 O. G. 279.

See also the prohibition against using apparatus and method use in a single claim IPXL holdings LLC v Amazon.com Inc. 77 USPQ 2d 1140.

With respect to claim 35 Moon describes a UV energy curable tape according to Claim 34, wherein: said given material is a UV sensitive ink and comprises about 0.001% by weight of the tape ( Moon- see rejection of claim 7 above ,page 6 lines 25-27, photoinitiator is 0.01 part and additive therein is dye/pigment in lesser amounts); and said given material starts to emit light of the given type when the tape absorbs about 10 joules/cm raised to 2 of UV energy. ( Moon page 4 line 10).

The recitation "said given material starts to emit light of the given type when the tape absorbs about 10 joules/cm raised to 2 of UV energy' is taken to a product by process limitation and also a particular use as explained in detail above and incorporated here by reference for the sake of brevity and not given patentable weight.

### ***Response to Arguments***

Applicant's arguments filed on December 14, 2005 have been fully considered but they are not persuasive for the following reasons :

Applicants' first contention that their invention in its specification and example describes the tape can be removed without leaving any significant residue is not a limitation presently recited in any of the pending claims and therefore is not material in determining the patentability of the present claims.



Applicants' contention that certain product-by-process limitations should be given patentable weight .

Firstly, the Applicants' by still not reciting the product by process limitations in proper format as has been suggested at least two-three times make it impossible to consider these limitations. Presently it is only possible to consider these limitation if and only when recited in proper format.

Secondly these limitations are hybrid product by process/ particular use functional limitations because the material is being further defined by its function it performs namely emit light and in by the process when tape absorbs a particular amount of energy or another way of saying becomes fully cured.

Applicants' contention that these features must be considered unfortunately is not persuasive because the present claims do not pass the test of proper format and then the merits of the claim can be addressed.

Applicants' last contention that Moon does tech/suggest providing light emitting material is not persuasive because Applicants' specification describes one of their embodiments as : "Another example of a material which emits optical light when the tape composition is substantially fully cured is a UV dye. Examples of a commercially available UV dyes that can be used in this invention are the MSA family of dyes, available from H.W. Sands Corn. 1080 E. Indiantown Road. Suite. Jupiter. FL, 33477. If UV sensitive ink or dye are used as the material for this invention, the light emitting energy range is designed to match-the amount of energy required to substantially fully cure the tape so it can- release from the substrate.

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Therefore when the tape is substantially fully cured the UV sensitive ink or dye will emit light. In this invention the ink or dye will change color to indicate when the tape is substantially fully cured.

The light emission can be sensed optically or by a machine capable of sensing optical light changes. The composition can be defined as substantially fully cured when it has absorbed from about 5 milli joules/cms to about 10 joules/cms of UV energy into the tape. If too little energy is used the tape will not be cured. If too much energy is used the tape can breakdown due to excessive heat. When this occurs there will be residual adhesive left on the bumps after removal of the tape or the chips can crack during picking due to high tack levels. This will be manifest at chip inspection. The UV energy source used in this invention is preferably UV light supplied by a bulb as part of a UV lamp." ( applicants' specification page 9 lines 17 to page 10 line 18) .

Therefore Moon's description of UV dyes/pigments used for the same purpose under similar circumstances will produce a UV energy curable tape comprising a material that starts to emit light of a first type when the tape becomes substantially fully cured ( as what is true for applicants' that UV dyes/pigments are material that starts to emit light of a first type when the tape becomes substantially fully cured, is also true for the applied Moon reference whose UV dyes/pigments are material that starts to emit light of a first type when the tape becomes substantially fully cured).

It is noted that the inherent property of the dye to emit light when fully cured ( by the use of same material for the same purpose ) is true for Moon as is true for Applicants.

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Applicants' cannot contend that their specification is enabling for the same inherent property for the same compound while the same ( emit light when cured) is not inherent for Moon, Further proof that Moon measures the extent of polymerization is seen on page 7 lines 27 to page 8 line including the citation of Gladyshev article as an example of measuring the extent of polymerization.

Therefore all of applicants' arguments are not persuasive. Therefore claims 1, 11 and 34 is finally rejected.

Dependent claims 2-9 and 30-33, 35 were alleged to be allowable because of their dependency on allegedly allowable independent claims 1,11 and 34.

However as seen above claims 1,11 and 34 are not allowable.  
Therefore claims 2-9 and 30-33 and 35 are also not allowable.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H. Rao whose telephone number is ( 571)272-1718. The examiner can normally be reached on 8.00 to 5.00.

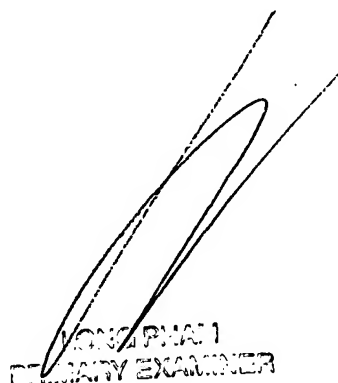
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fahmy Wael can be reached on (571) 272-1714. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven H. Rao

Patent Examiner

Feb. 28, 2006.



STEVEN H. RAO  
PATENT EXAMINER